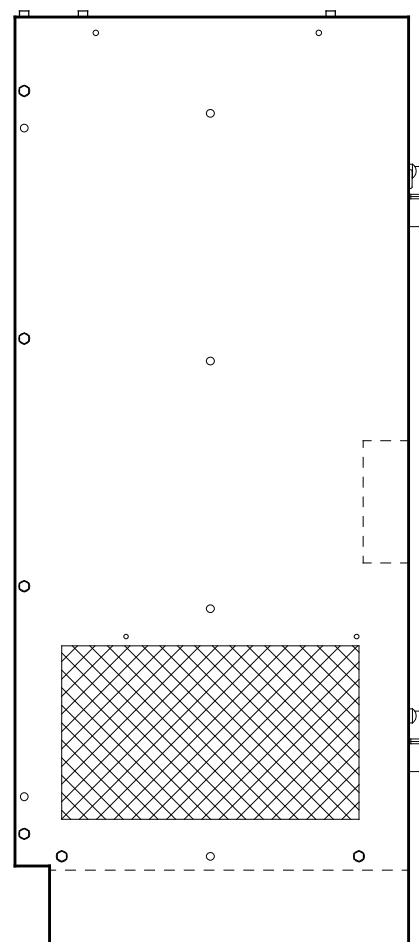
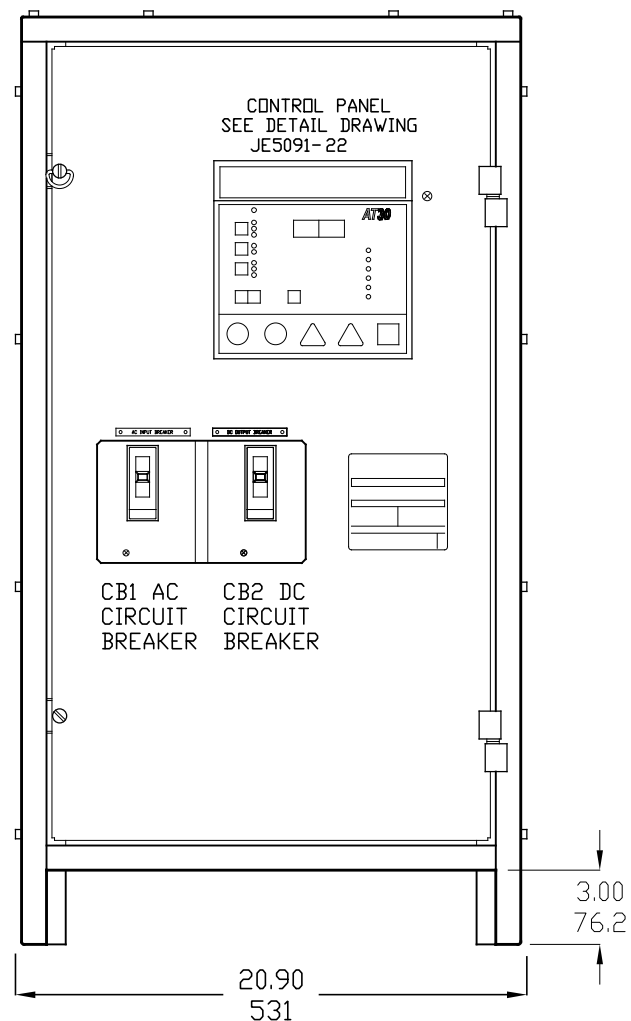


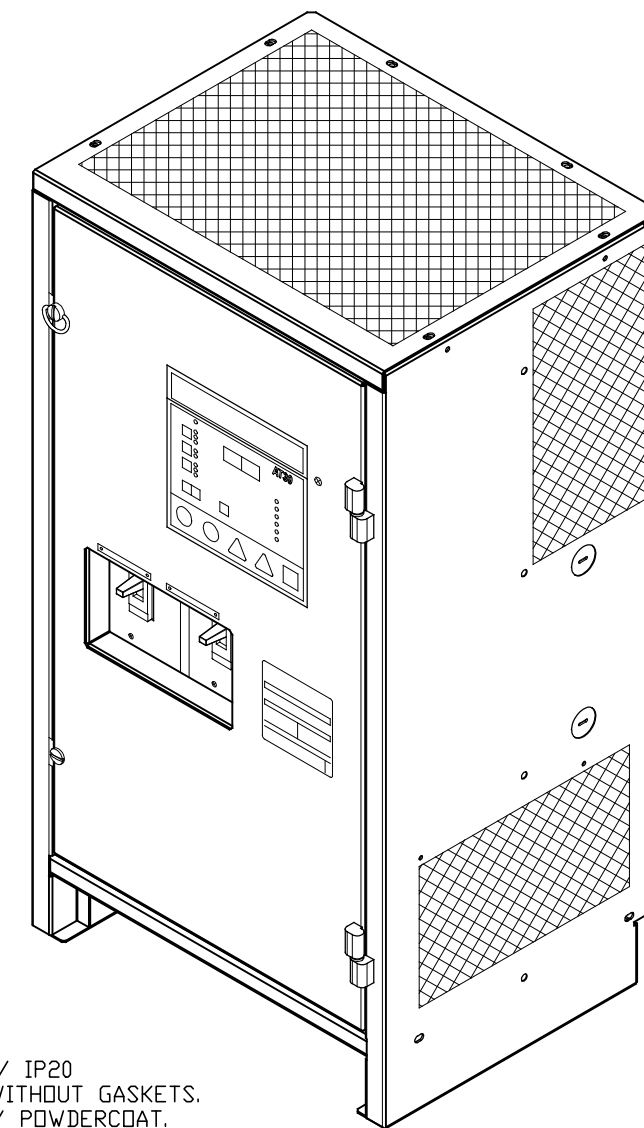
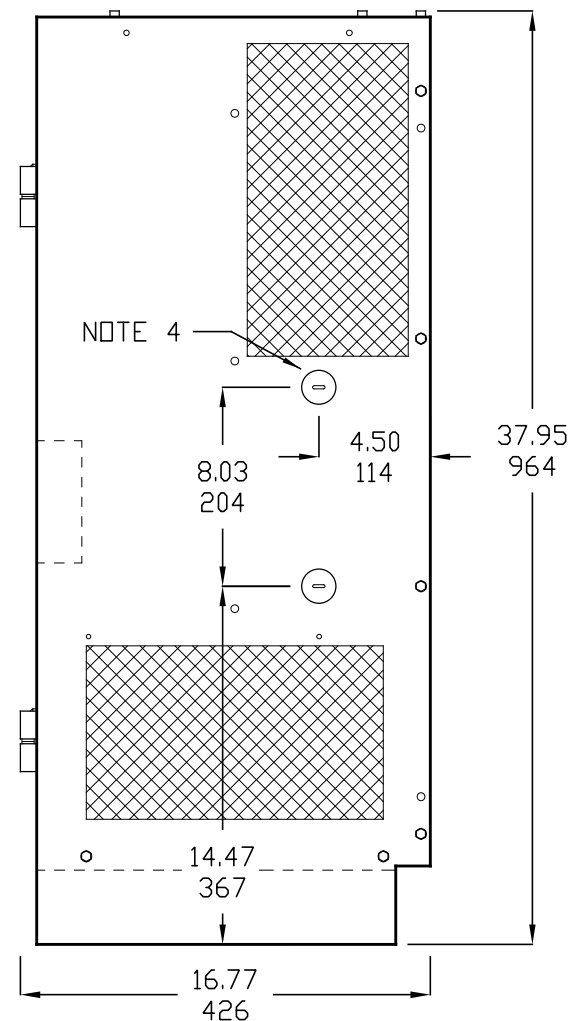
SIDE VIEW



FRONT VIEW



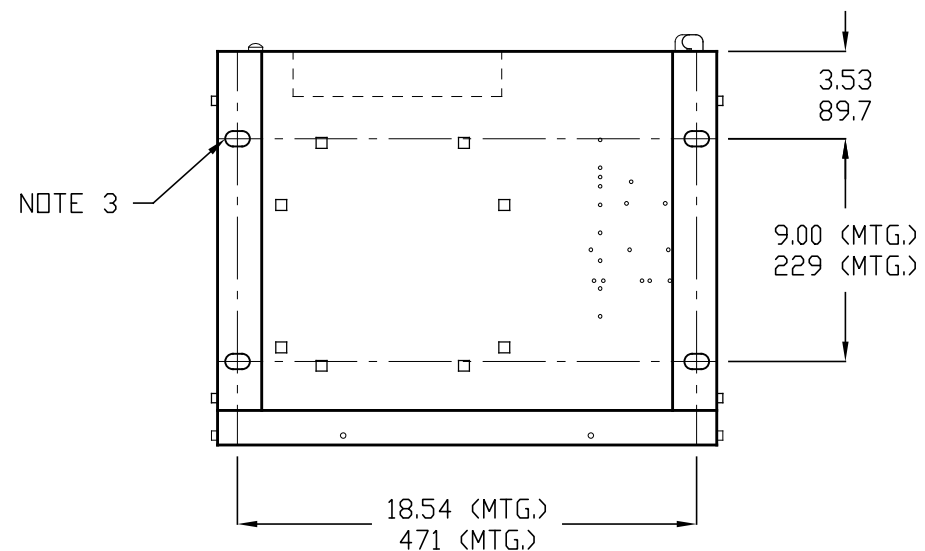
SIDE VIEW



NOTES:

- 1) ENCLOSURE IS A NEMA TYPE 1 / IP20 TOP-VENTED STEEL CABINET WITHOUT GASKETS. FINISH IS ANSI-61 GRAY EPOXY POWDERCOAT.
- 2) ALLOW 6in / 152mm OF FREE AIR ON ALL VENTED SURFACES (TOP, SIDES & REAR) FOR COOLING.
- 3) FOUR (4) 1in x 0.625in / 25mm x 16mm FLOOR-MOUNTING SLOTS ARE PROVIDED ON BOTTOM OF ENCLOSURE AS SHOWN.
- 4) TWO (2) 1.31in / 33mm DIA STANDARD PRE-FAB KEY-SLOT KNOCKOUTS ARE PROVIDED AS SHOWN FOR 1in / 25mm CONDUIT ENTRY. IF ADDITIONAL CONDUIT ENTRANCES ARE REQUIRED, ENCLOSURE SHOULD BE FIELD-MODIFIED BY INSTALLER.
- 5) BATTERY CHARGER SHIPPING WEIGHT: SEE PRODUCT LITERATURE.

BOTTOM VIEW



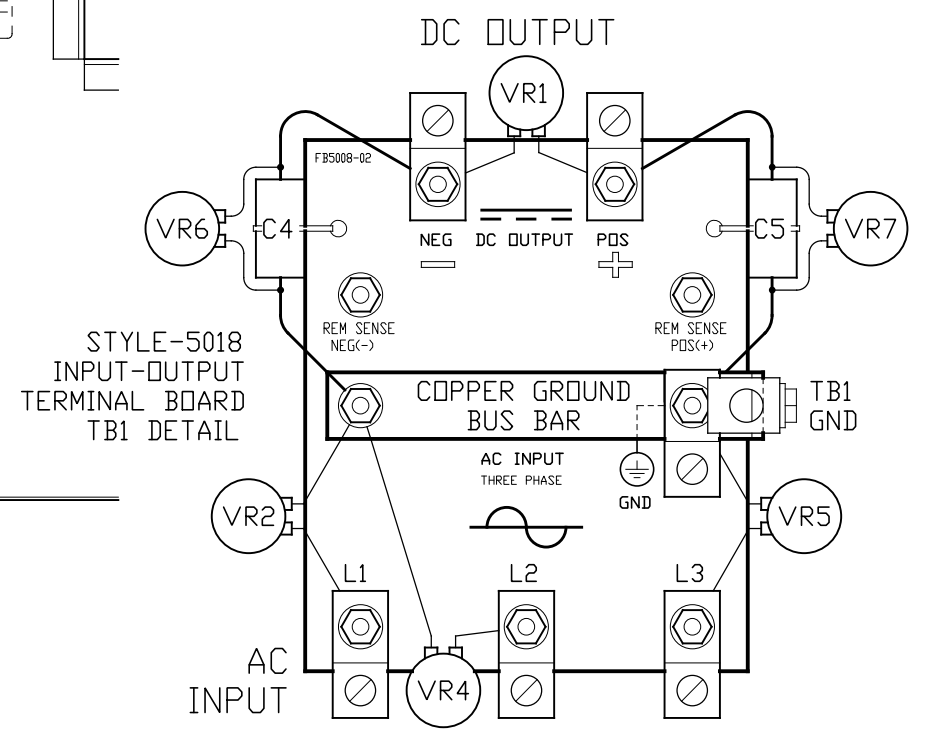
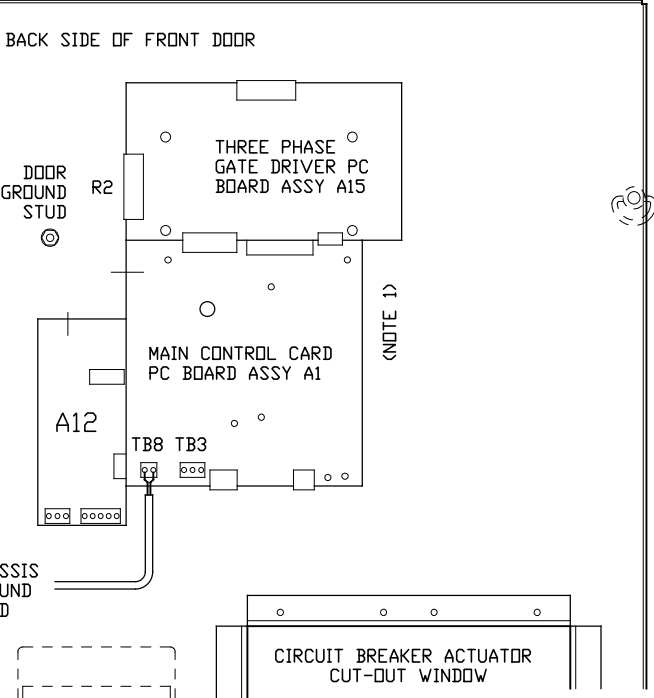
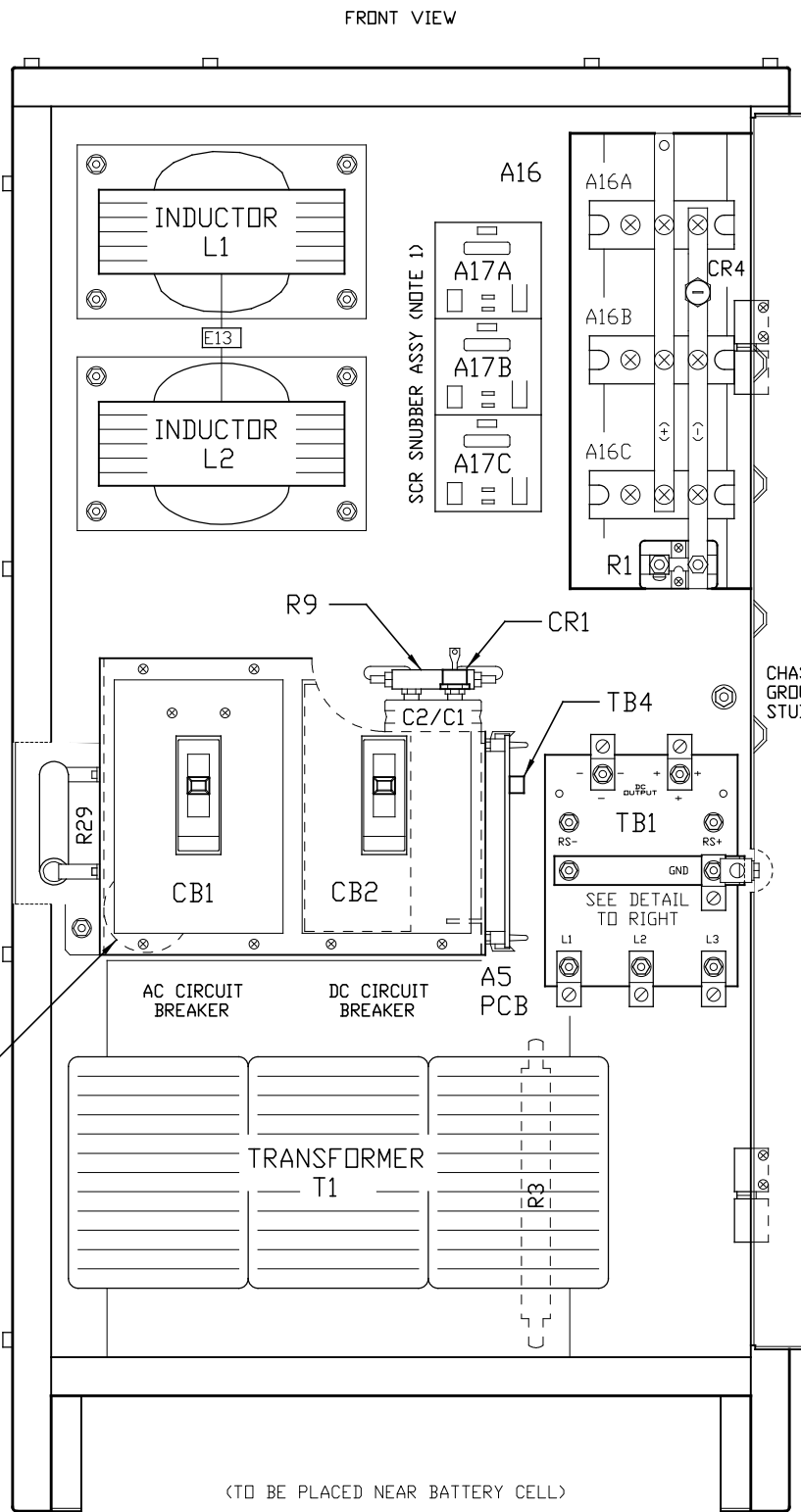
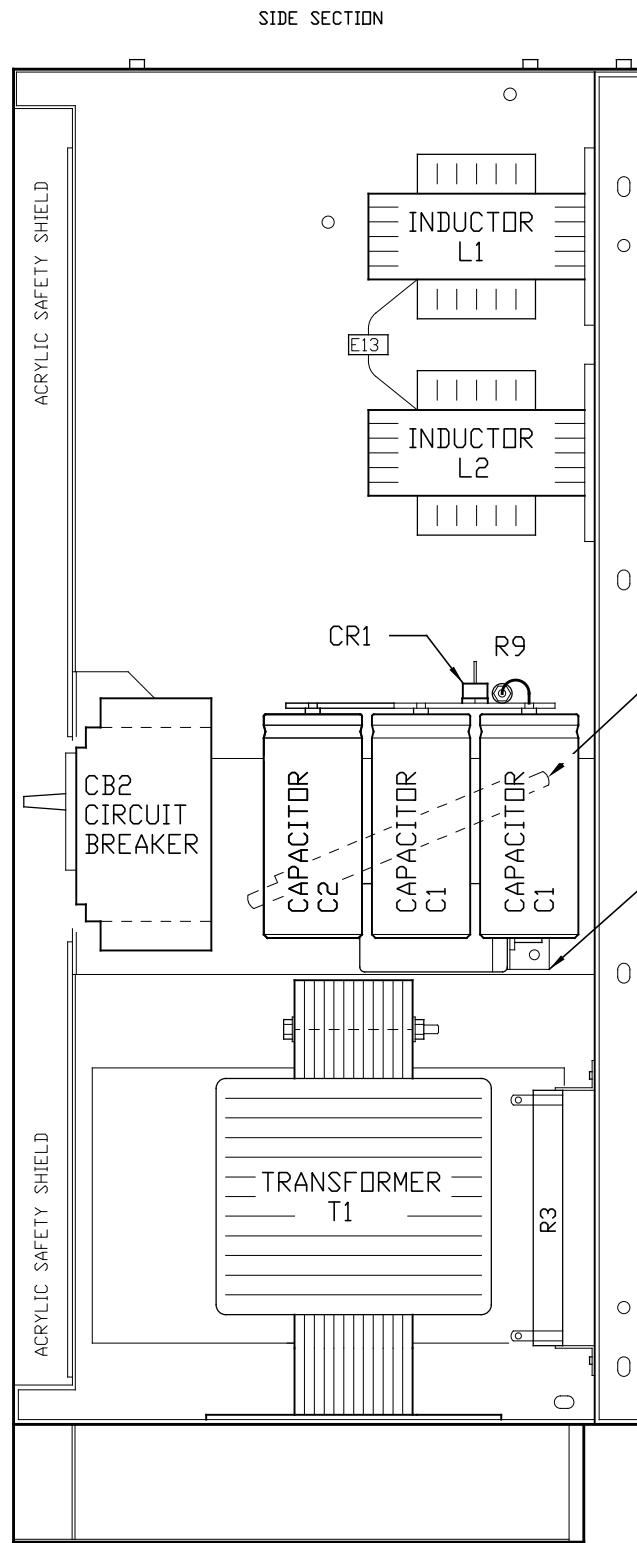
DUAL DIMENSIONS in mm

75-100ADC W/ COMMON OPTIONS

			THIRD ANGLE PROJECTION				1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
			DRAWN BY KMW	110421	TITLE AT30 SERIES BATTERY CHARGER OUTLINE: NEMA-1 STYLE-5018 ENCLOSURE			
			ELECTRONIC APPROVAL SIGNATURES MAINTAINED BY MFG ECN LOG		DRAWING No JE5085-22		REV 0 B	
0	N/A	110421	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		SCALE NTS		SALES No	
REV	ECN No	DATE			SHEET 1 OF 1			

SYM	STANDARD COMPONENT DESCRIPTION
A1	MAIN CONTROL PC BOARD
A15	THREE PHASE GATE DRIVER PC BRD
A16	3PH SCR MODULE (3x2 Q1-Q6)
A17x	SCR SNUBBER PC BOARD - QTY. (3)
C4	EMI OUTPUT FILTER CAP (NEG-GND)
C5	EMI OUTPUT FILTER CAP (POS-GND)
CB1	AC INPUT CIRCUIT BREAKER (HJ3)
CB2	DC OUTPUT CIRCUIT BREAKER (HJ2)
CR4	FREE-WHEELING DIODE
L1	MAIN INDUCTOR
R1	MAIN DC SHUNT, NEG(-) BUS
R2	CURRENT RATING RESISTOR
R3	PWR SUPPLY BALLAST RES (130VDC)
T1	POWER ISOLATION TRANSFORMER
TB1	I/O TERMINAL BOARD
TB3	SUMMARY ALARM CONTACTS
TB8	TEMPCD PROBE TERMINAL BLOCK
VR1	OUTPUT SURGE SUPPRESSOR (+TO-)
VR2	INPUT SURGE SUPPRESSOR (LINE 1)
VR4	INPUT SURGE SUPPRESSOR (LINE 3)
VR5	INPUT SURGE SUPPRESSOR (LINE 2)
VR6	OUTPUT SURGE SUPPRESSOR (-)
VR7	OUTPUT SURGE SUPPRESSOR (+)

SYM	FEATURED OPTION COMP DESCRIPTION
A5	AUXILIARY ALARM RELAY PC BOARD
A10	TEMPERATURE COMPENSATION PROBE
A12	COMMUNICATIONS MODULE PC BOARD
C1x	DC OUTPUT FILTER CAPACITOR
C2	BATTERY ELIMINATOR CAPACITOR
CR1	POLARITY DIODE
E13	INDUCTOR INTER-CONNECT POINT
L2	FILTER INDUCTOR
R9	FILTER CAP (C1) BLEED RESISTOR
R29	COMM MOD BALLAST RES (130VDC)
TB4	AUX ALARM PCB (A5) TERM BLK
VR3	AC INPUT LIGHTNING ARRESTOR



I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
TB1(+/-)	POS/NEG DC OUTPUT TERMS - CU-ALUMINUM COMPRESSION LUG	#14-1/0 AWG
REM SENSE(+/-)	POS/NEG REMOTE SENSE TERMINALS - 1/4-20 ZPS STUDS	1/4in RING LUG
(2) TB1-GND	USER GROUND TERMINAL - CU-ALUMINUM COMPRESSION LUG	#14-1/0 AWG
TB1-L1/L2/L3	AC INPUT TERMINALS - CU-ALUMINUM COMPRESSION LUG	#14-1/0 AWG
TB3	SUMMARY ALARM TERMINAL BLOCK - SOLDERLESS COMP SCREW	#22-14 AWG
TB4	AUXILIARY ALARM TERM BLOCK - SOLDERLESS COMP SCREW	#22-14 AWG
TB8	TEMPCD PROBE (A10) TERM BLK - SOLDERLESS COMP SCREW	#22-14 AWG

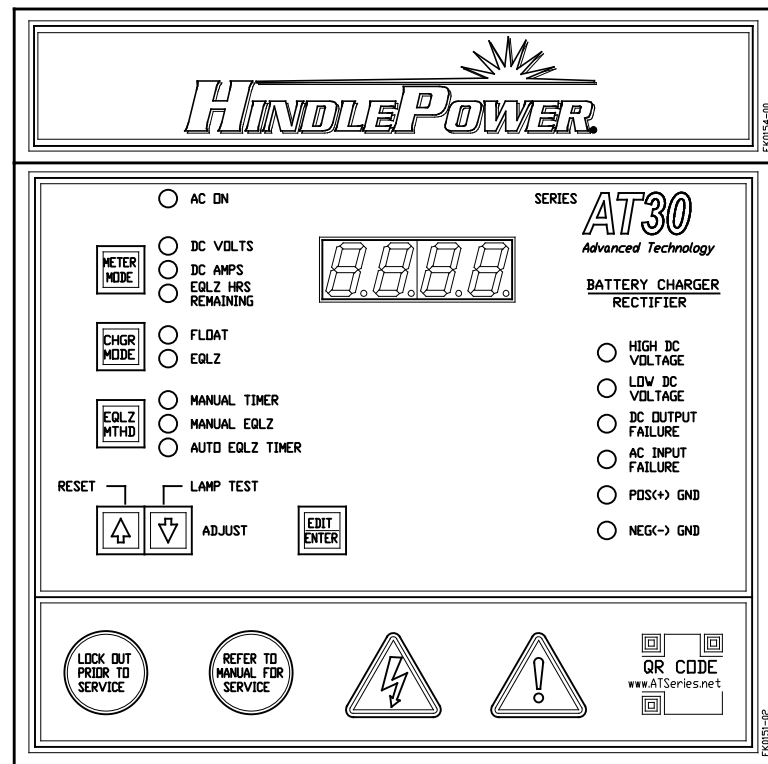
NOTES:
 1) FOR DETAIL VIEWS OF ALL PC BOARDS (A1, A5, A15, A17, etc.) SEE DETAIL JE5091-22.

			THIRD ANGLE PROJECTION
0	N/A	110421	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:
REV	ECN No	DATE	

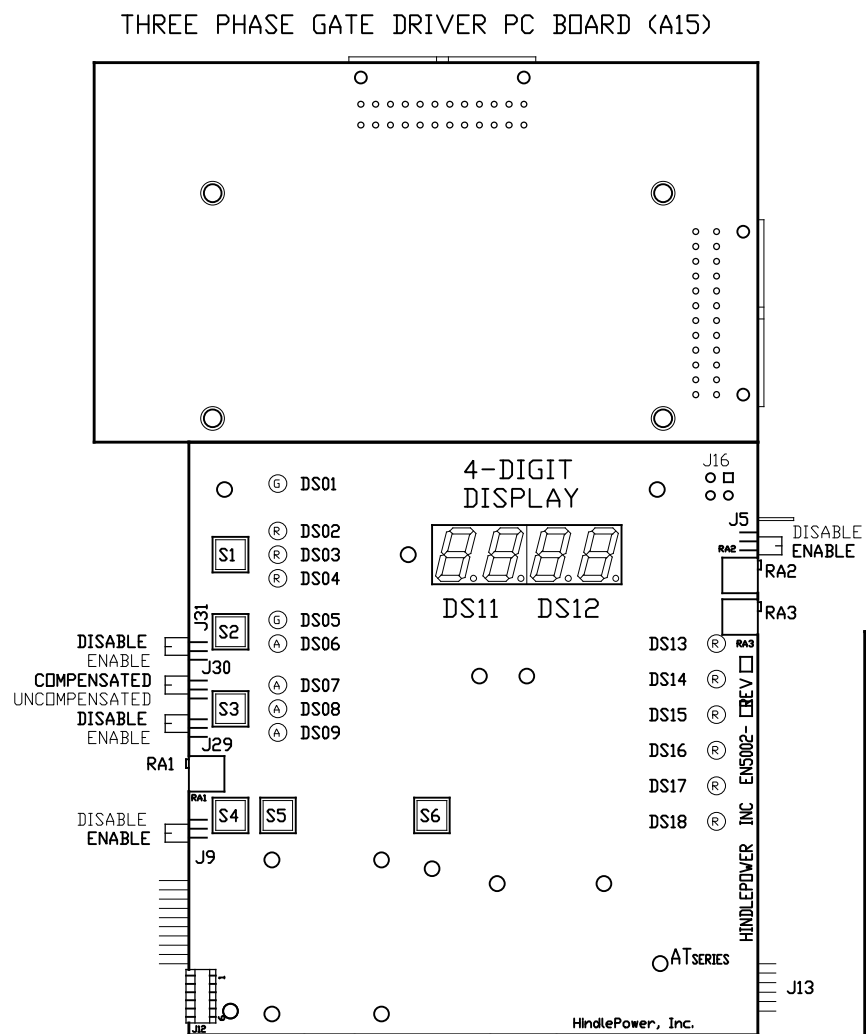
75-100ADC W/ COMMON OPTIONS

HINDLE POWER		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
TITLE AT30 SERIES BATTERY CHARGER INTERNAL COMPONENT LAYOUT: STYLE-5018			
DRAWING No		REV	
JE5088-22		0 B	
SCALE	SALES No	SHEET 1 OF 1	
NTS			

- INDICATOR LIGHTS (LEDs):
- DS01 - GREEN - AC ON
 - DS02 - RED - DC VOLTS
 - DS03 - RED - DC AMPERES
 - DS04 - RED - EQUALIZE HRS REMAINING
 - DS05 - GREEN - FLOAT
 - DS06 - AMBER - EQUALIZE
 - DS07 - AMBER - MANUAL TIMER
 - DS08 - AMBER - MANUAL EQUALIZE
 - DS09 - AMBER - AUTO EQUALIZE TIMER
 - DS10 - RED - LOW LEVEL DETECT
 - DS11 - RED - (METER DISPLAY)
 - DS12 - RED - (METER DISPLAY)
 - DS13 - RED - HIGH DC VOLTAGE
 - DS14 - RED - LOW DC VOLTAGE
 - DS15 - RED - DC OUTPUT FAILURE
 - DS16 - RED - AC INPUT FAILURE
 - DS17 - RED - POS(+) GROUND FAULT
 - DS18 - RED - NEG(-) GROUND FAULT

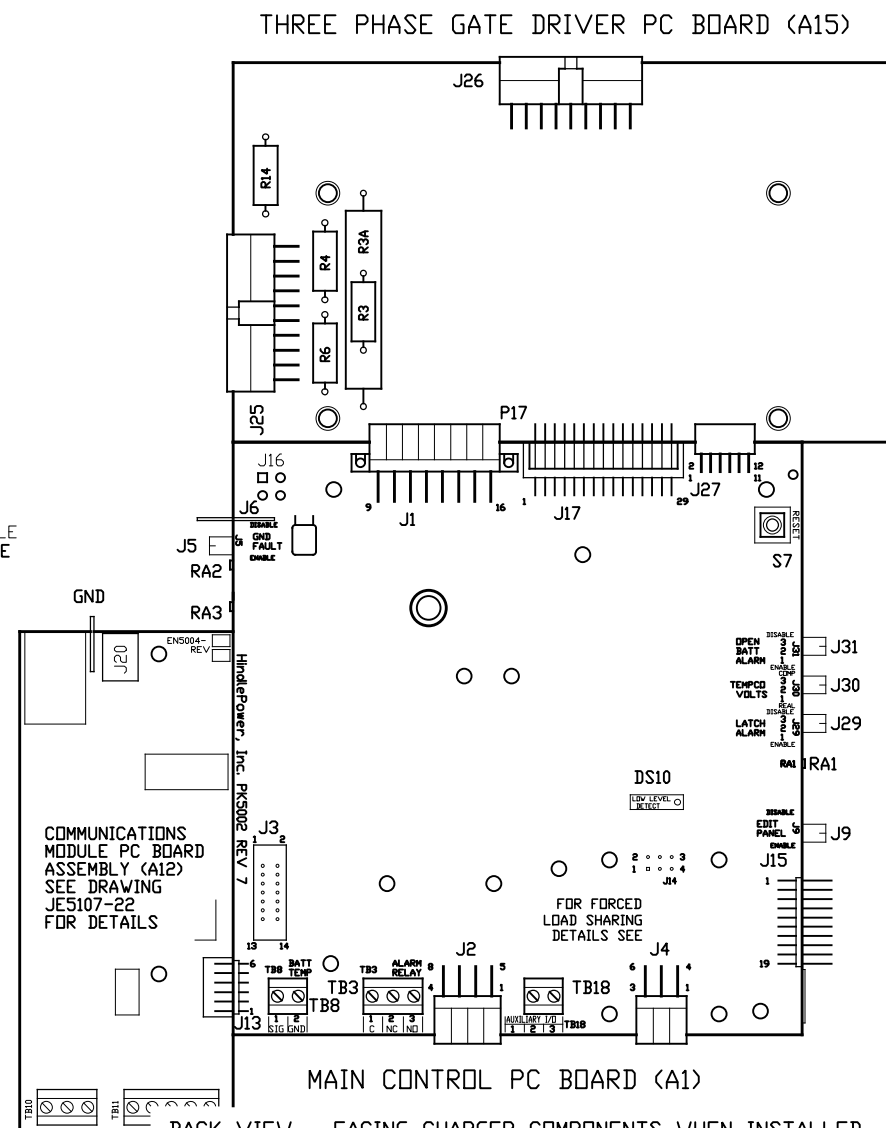


CONTROL PANEL
(PART No. FK0151-02)



MAIN CONTROL PC BOARD (A1)

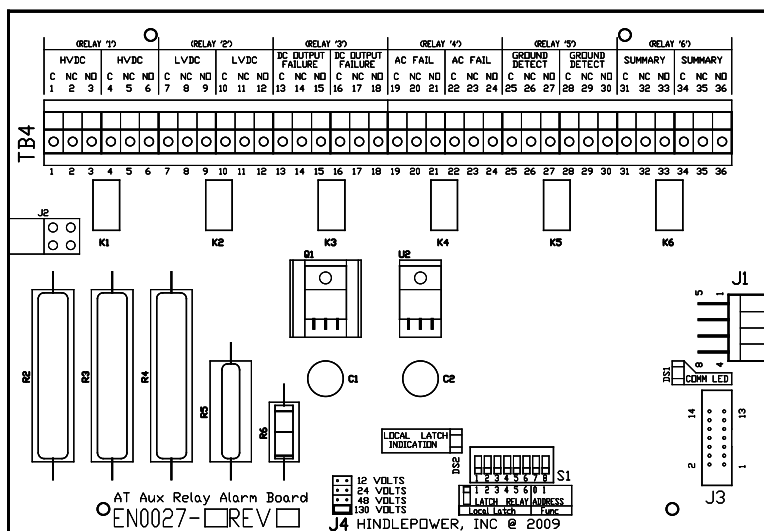
FRONT VIEW - FACING CHARGER DDR WHEN INSTALLED



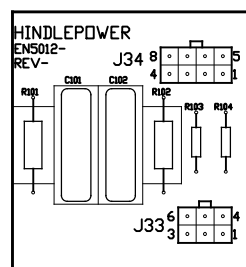
MAIN CONTROL PC BOARD (A1)

BACK VIEW - FACING CHARGER COMPONENTS WHEN INSTALLED

NOTE: UNLESS OTHERWISE SPECIFIED, ALL USER TERMINAL BLOCKS (TB3/TB4/TB8) ARE SOLDERLESS COMPRESSION TERMINALS, ACCEPTING #22-14 AWG WIRE. ALL ALARM CONTACTS SHOWN IN NON-ALARM STATE, WITH CHARGER ENERGIZED AND ALARM RELAYS ENERGIZED (FAIL SAFE). ALL ALARM CONTACTS WILL CHANGE STATE WHEN CHARGER IS POWERED DOWN. CONTACT RATING IS 0.5A @ 125VAC/VDC RESISTIVE.



AUXILIARY ALARM RELAY PC BOARD (A5)



SCR SNUBBER
PC BOARD (A17x)
THREE (3) REQ'D
PER CHARGER

A5-J1 CONNECTED TO
A1-J2 VIA EH5045-0#
8-PIN SERIAL CABLE

OTHER CONTROLS:
RA1 - LOW LEVEL
DETECT ADJUST
RA2 - GROUND FAULT
BALANCE
RA3 - GROUND FAULT
SENSITIVITY

NON-USER ACCESSED JUMPERS:
J3 - DLD A5 RIBBON CONNECTOR
J12 - BOARD PROGRAMMING
J14 - DLD FORCED LOAD SHARING
J15 - MANUFACTURING TEST
J16 - DLD INTERNAL TEMP

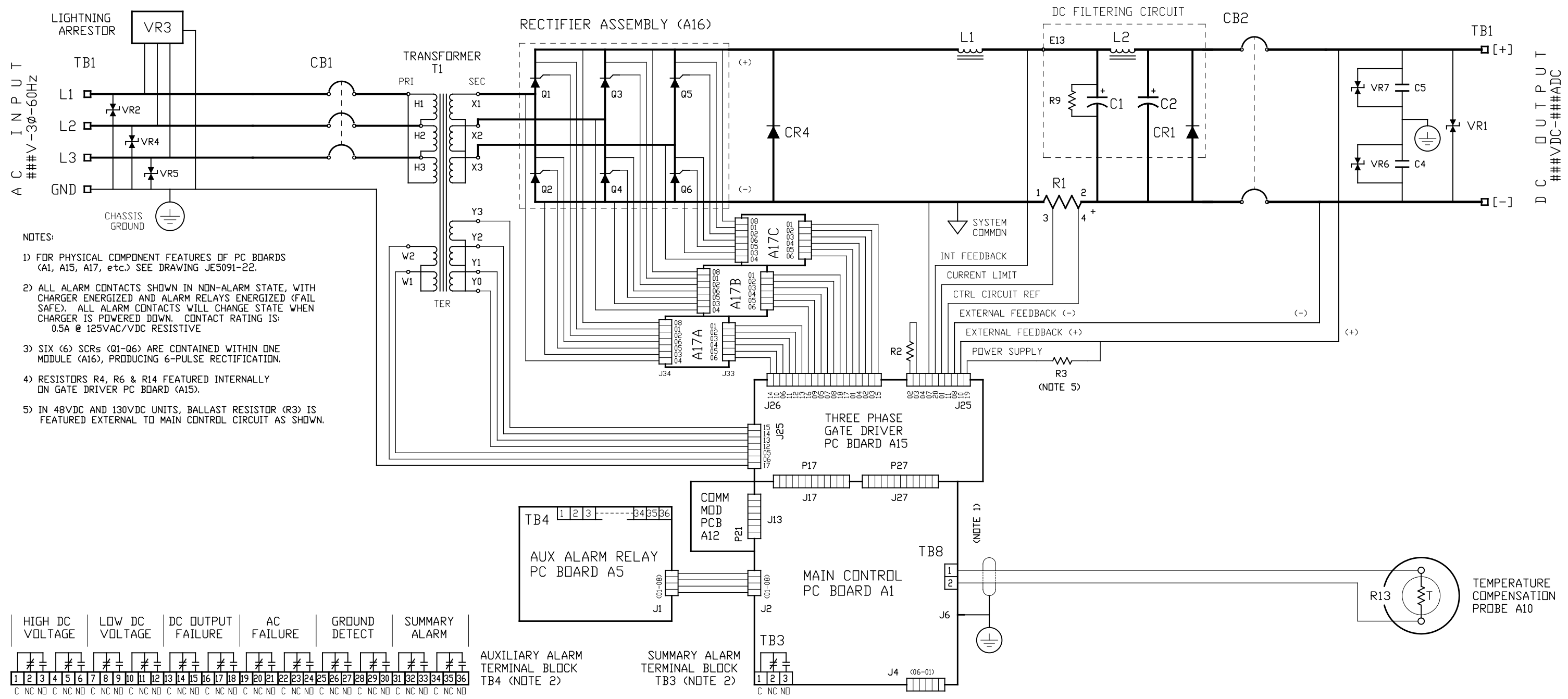
USER JUMPERS:

- J1 - not used with 3PH (MAINFRAME SIGNAL HARNESS)
- J2 - AUX ALARM RELAY BOARD (A5) SERIAL CONNECTOR
- J4 - FORCED LOAD SHARING CABLE INTERCONNECTOR
- J5 - GROUND FAULT ENABLE/DISABLE
- J6 - EARTH GROUND CONNECTOR
- J9 - FRONT PANEL ENABLE/DISABLE (LOCKOUT)
- J13 - COMMUNICATIONS PC BOARD (A12) INTERCONNECTOR
- J17 - 3PH GATE DRIVER PC BOARD (A15) INTERCONNECTOR
- J25 - MAINFRAME CONTROL SIGNAL HARNESS
- J26 - SCR FIRING CONTROL HARNESS (3 PHASE/6 PULSE)
- J27 - 3PH GATE DRIVER PC BOARD (A15) INTERCONNECTOR
- J29 - LATCHING ALARMS ENABLE/DISABLE SELECTOR
- J30 - TEMPCD VOLTAGES (COMPENSATED/UNCOMP) SELECTOR
- J31 - BATTERY OPEN ALARM ENABLE/DISABLE SELECTOR

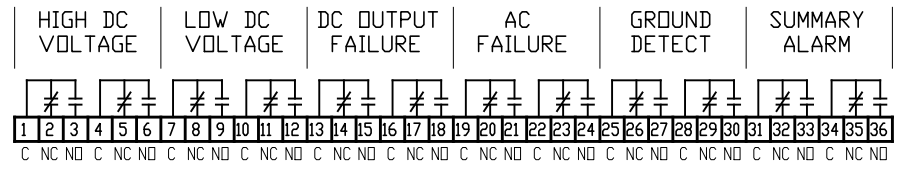
SWITCHES:

- S1 - METER MODE
 - S2 - CHARGER MODE
 - S3 - EQUALIZE METHOD
 - S4 - ΔADJUST
 - S5 - ▽ADJUST
 - S6 - EDIT / ENTER
 - S7 - PROCESSOR MANUAL RESET
- TERMINAL BLOCKS:
TB3 - SUMMARY ALARM RELAY CONTACTS
TB4 - AUX ALARM RELAY CONTACTS
TB8 - DPT TEMPCD PROBE (A10) CONN
TB18 - REM SHUTDOWN INTERFACE

THIRD ANGLE PROJECTION		DRAWN BY KMW 110421		HINDLEPOWER		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
ELECTRONIC APPROVAL SIGNATURES MAINTAINED BY MFG ECN LOG		TITLE AT30 SERIES BATTERY CHARGER CONTROL PANEL / PC BOARD DETAIL		DRAWING No JE5091-22		REV 0 B	
0	N/A	110421	UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		SCALE NTS	SALES No	SALES#
REV	ECN No	DATE			SHEET 1	OF 1	

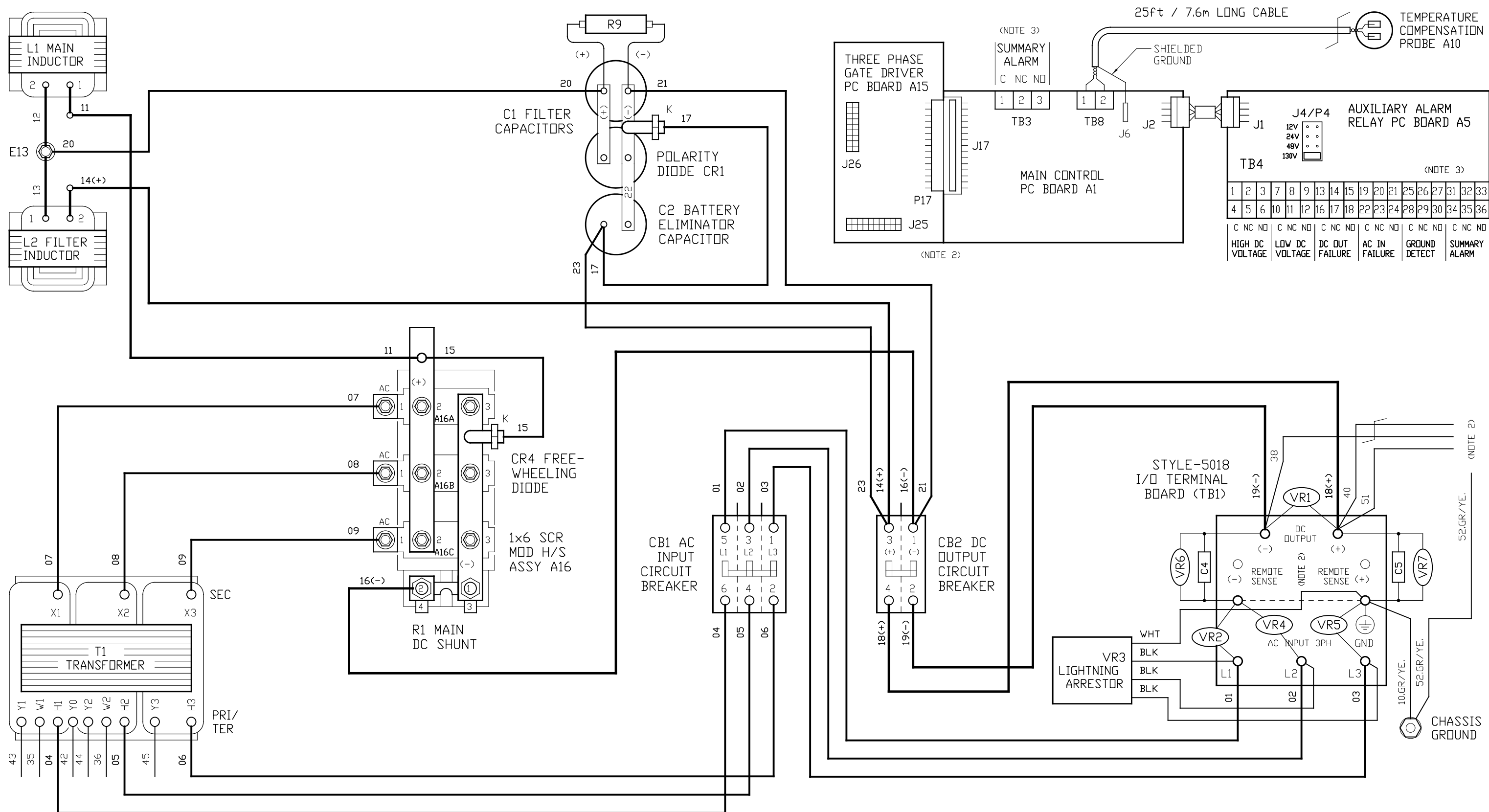


- NOTES:
- 1) FOR PHYSICAL COMPONENT FEATURES OF PC BOARDS (A1, A15, A17, etc.) SEE DRAWING JE5091-22.
 - 2) ALL ALARM CONTACTS SHOWN IN NON-ALARM STATE, WITH CHARGER ENERGIZED AND ALARM RELAYS ENERGIZED (FAIL SAFE). ALL ALARM CONTACTS WILL CHANGE STATE WHEN CHARGER IS POWERED DOWN. CONTACT RATING IS: 0.5A @ 125VAC/VDC RESISTIVE
 - 3) SIX (6) SCRS (Q1-Q6) ARE CONTAINED WITHIN ONE MODULE (A16), PRODUCING 6-PULSE RECTIFICATION.
 - 4) RESISTORS R4, R6 & R14 FEATURED INTERNALLY ON GATE DRIVER PC BOARD (A15).
 - 5) IN 48VDC AND 130VDC UNITS, BALLAST RESISTOR (R3) IS FEATURED EXTERNAL TO MAIN CONTROL CIRCUIT AS SHOWN.



STANDARD AT30 COMPONENTS:		STANDARD AT30 COMPONENTS:		FEATURED AT30 OPTION COMPONENTS:		FEATURED AT30 OPTION COMPONENTS:	
A1 MAIN CONTROL PC BOARD (NOTE 1)	(NOTE 1)	R1 MAIN DC SHUNT, NEG(-) BUS (NOTE 5)	(NOTE 5)	DC FILTERING ASSEMBLY:	A5 AUXILIARY ALARM RELAY PC BOARD (NOTE 1)	(NOTE 1)	
A15 THREE PHASE GATE DRIVER PC BOARD (NOTE 1)	(NOTE 1)	R2 CURRENT RATING RESISTOR (NOTE 4)	(NOTE 4)	C1 DC OUTPUT FILTERING CAPACITOR	TB4 AUXILIARY ALARM (A5) TERMINAL BLOCK (NOTE 2)	(NOTE 2)	
A16 6-PULSE SCR (Q1-Q6) MODULE (NOTE 3)	(NOTE 3)	R3 POWER SUPPLY BALLAST RESISTOR (NOTE 4)	(NOTE 4)	CR1 POLARITY DIODE	A10 EXTERNAL TEMPERATURE COMPENSATION PROBE		
A17A SCR SNUBBER ASSY PC BOARD (NOTE 1)	(NOTE 1)	R4 EXTERNAL SCALING RESISTOR (+) (NOTE 4)	(NOTE 4)	E13 INDUCTOR INTERCONNECTION POINT	R13 TEMPCD PROBE (A10) RESISTOR		
A17B SCR SNUBBER ASSY PC BOARD (NOTE 1)	(NOTE 1)	R6 INTERNAL SCALING RESISTOR (NOTE 4)	(NOTE 4)	L2 FILTERING INDUCTOR	T TEMPCD PROBE (A10) THERMISTOR		
A17C SCR SNUBBER ASSY PC BOARD (NOTE 1)	(NOTE 1)	R14 EXTERNAL SCALING RESISTOR (-) (NOTE 4)	(NOTE 4)	R9 FILTER CIRCUIT BLEED RESISTOR			
C4 DC OUTPUT EMI FILTER CAPACITOR (-) TO GROUND		T1 POWER ISOLATION TRANSFORMER (+10/-12%)		C2 BATTERY ELIMINATOR FILTER CAPACITOR			
C5 DC OUTPUT EMI FILTER CAPACITOR (+) TO GROUND				VR3 AC INPUT LIGHTNING ARRESTOR			
CB1 AC INPUT CIRCUIT BREAKER		TB1 INPUT/OUTPUT TERMINAL BLOCK (NOTE 2)	(NOTE 2)				
CB2 DC OUTPUT CIRCUIT BREAKER		TB3 SUMMARY ALARM TERMINAL BLOCK (NOTE 2)	(NOTE 2)				
CR4 FREE-WHEELING DIODE		TB8 OPTIONAL TEMPCD PROBE (A10) INTERCONNECTOR					
L1 MAIN INDUCTOR							
Q1 SILICON-CONTROLLED RECTIFIER (A16A) (NOTE 3)	(NOTE 3)	VR1 DC OUTPUT SURGE SUPPRESSOR (-) TO (+)					
Q2 SILICON-CONTROLLED RECTIFIER (A16A) (NOTE 3)	(NOTE 3)	VR2 AC INPUT SURGE SUPPRESSOR (LINE 1)					
Q3 SILICON-CONTROLLED RECTIFIER (A16B) (NOTE 3)	(NOTE 3)	VR4 AC INPUT SURGE SUPPRESSOR (LINE 2)					
Q4 SILICON-CONTROLLED RECTIFIER (A16B) (NOTE 3)	(NOTE 3)	VR5 AC INPUT SURGE SUPPRESSOR (LINE 3)					
Q5 SILICON-CONTROLLED RECTIFIER (A16C) (NOTE 3)	(NOTE 3)	VR6 DC OUTPUT SURGE SUPPRESSOR (-) TO GROUND					
Q6 SILICON-CONTROLLED RECTIFIER (A16C) (NOTE 3)	(NOTE 3)	VR7 DC OUTPUT SURGE SUPPRESSOR (+) TO GROUND					

DRAWN BY KMW 110421		THIRD ANGLE PROJECTION	
ELECTRONIC APPROVAL SIGNATURES MAINTAINED BY MFG ECN LOG		HINDLE POWER	
0 N/A 110421		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
REV ECN No DATE		TITLE BATTERY CHARGER SCHEMATIC: 75-100ADC W/ COMMON OPTIONS	
		DRAWING No JE5092-22 REV 0 B	
		SCALE NTS SALES No SHEET 1 OF 1	



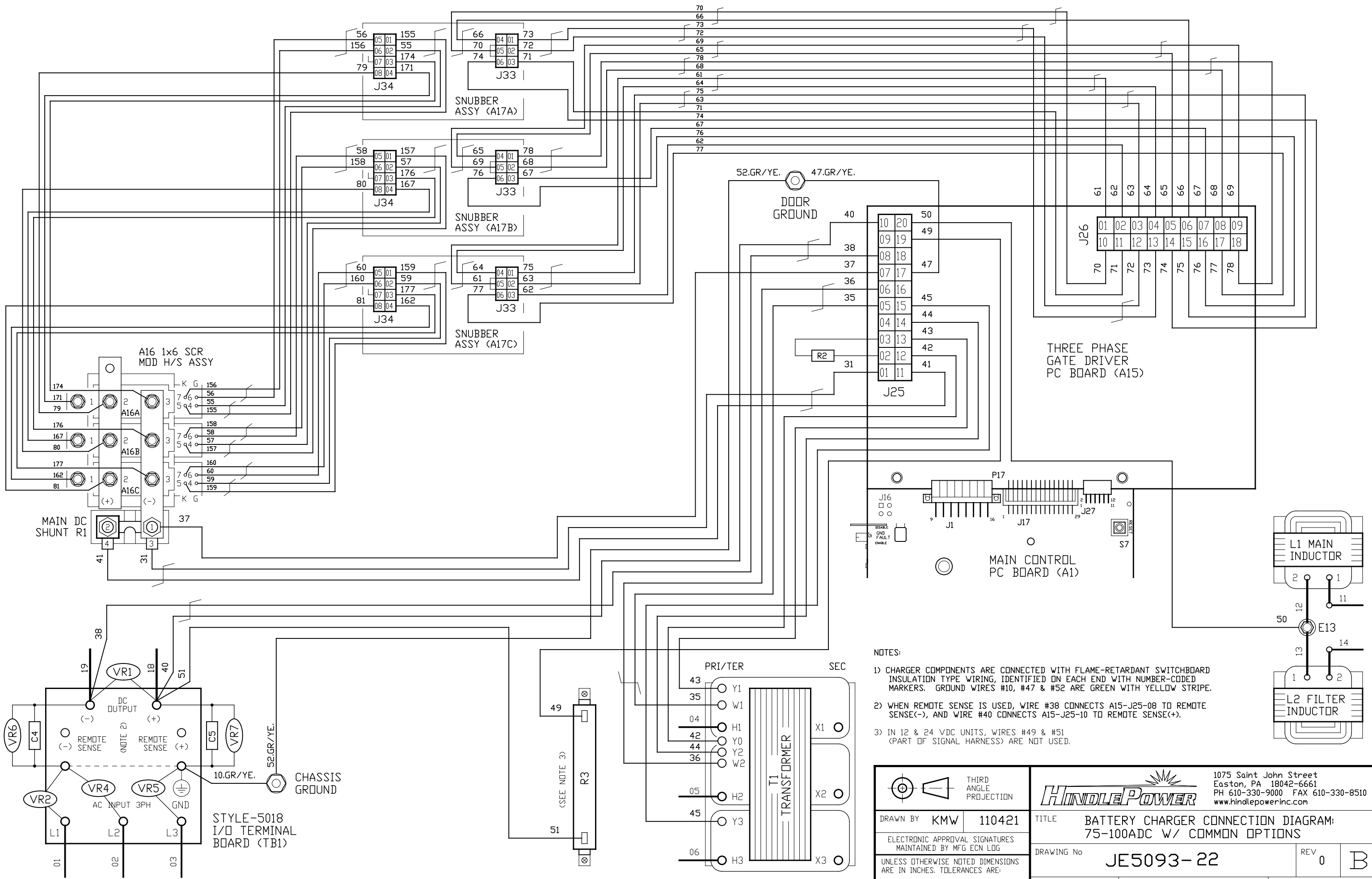
NOTES:

- 1) CHARGER COMPONENTS ARE CONNECTED WITH BLACK FLAME-RETARDANT SWITCHBOARD INSULATION SYSTEM (SIS) TYPE WIRING, IDENTIFIED ON EACH END WITH NUMBER-CODED WIRE MARKERS. GROUND WIRES ARE GREEN WITH YELLOW STRIPE. DIODES (CR1 & CR4) ARE ANODE-MOUNTED TYPE, WIRE TO CATHODE.
- 2) THIS DRAWING (SHEET 1) DEPICTS THE AT30 MAINFRAME POWER WIRING AND USER CONNECTION CONTACTS TO CONTROL PC BOARDS (A1 & A5). SEE SHEET 2 FOR ALL CONTROL (SIGNAL) WIRING, INCLUDING REMOTE SENSE MODIFICATIONS, IF APPLICABLE.
- 3) STANDARD USER ALARM CONTACTS (TB3, TB4, etc.) ARE SOLDERLESS COMPRESSION SCREW TERMINALS, ACCEPTING #22-14 AWG WIRE.

FEATURED OPTIONS:

- STANDARD DC OUTPUT FILTERING
- BATTERY ELIMINATOR FILTER CAP
- AC INPUT CIRCUIT BREAKER
- DC OUTPUT CIRCUIT BREAKER
- AUXILIARY ALARM RELAY PC BOARD
- AC INPUT LIGHTNING ARRESTOR
- EXTERNAL TEMPCO REMOTE PROBE

		 THIRD ANGLE PROJECTION		 1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
		DRAWN BY KMW	110421	TITLE BATTERY CHARGER CONNECTION DIAGRAM: 75-100ADC W/ COMMON OPTIONS	
		ELECTRONIC APPROVAL SIGNATURES MAINTAINED BY MFG ECN LOG		DRAWING No JE5093-22	
		UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		REV 0	
0	N/A	110421			B
REV	ECN No	DATE	SCALE NTS	SALES No	SHEET 1 OF 2

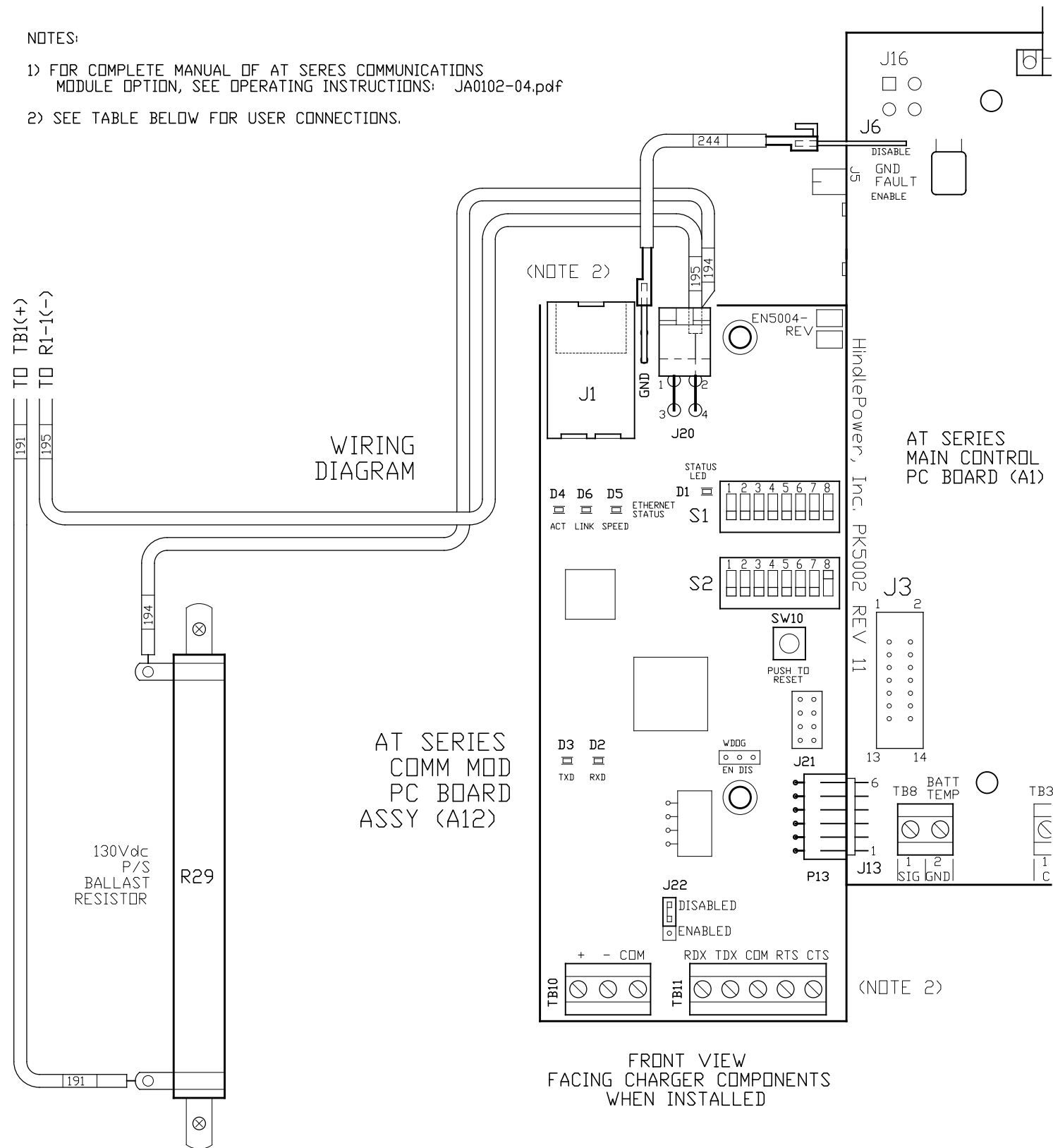


- NOTES:
- 1) CHARGER COMPONENTS ARE CONNECTED WITH FLAME-RETARDANT SWITCHBOARD INSULATION TYPE WIRING, IDENTIFIED ON EACH END WITH NUMBER-CODED MARKERS. GROUND WIRES #10, #47 & #52 ARE GREEN WITH YELLOW STRIPE.
 - 2) WHEN REMOTE SENSE IS USED, WIRE #38 CONNECTS A15-J25-08 TO REMOTE SENSE(-), AND WIRE #40 CONNECTS A15-J25-10 TO REMOTE SENSE(+).
 - 3) IN 12 & 24 VDC UNITS, WIRES #49 & #51 (PART OF SIGNAL HARNESS) ARE NOT USED.

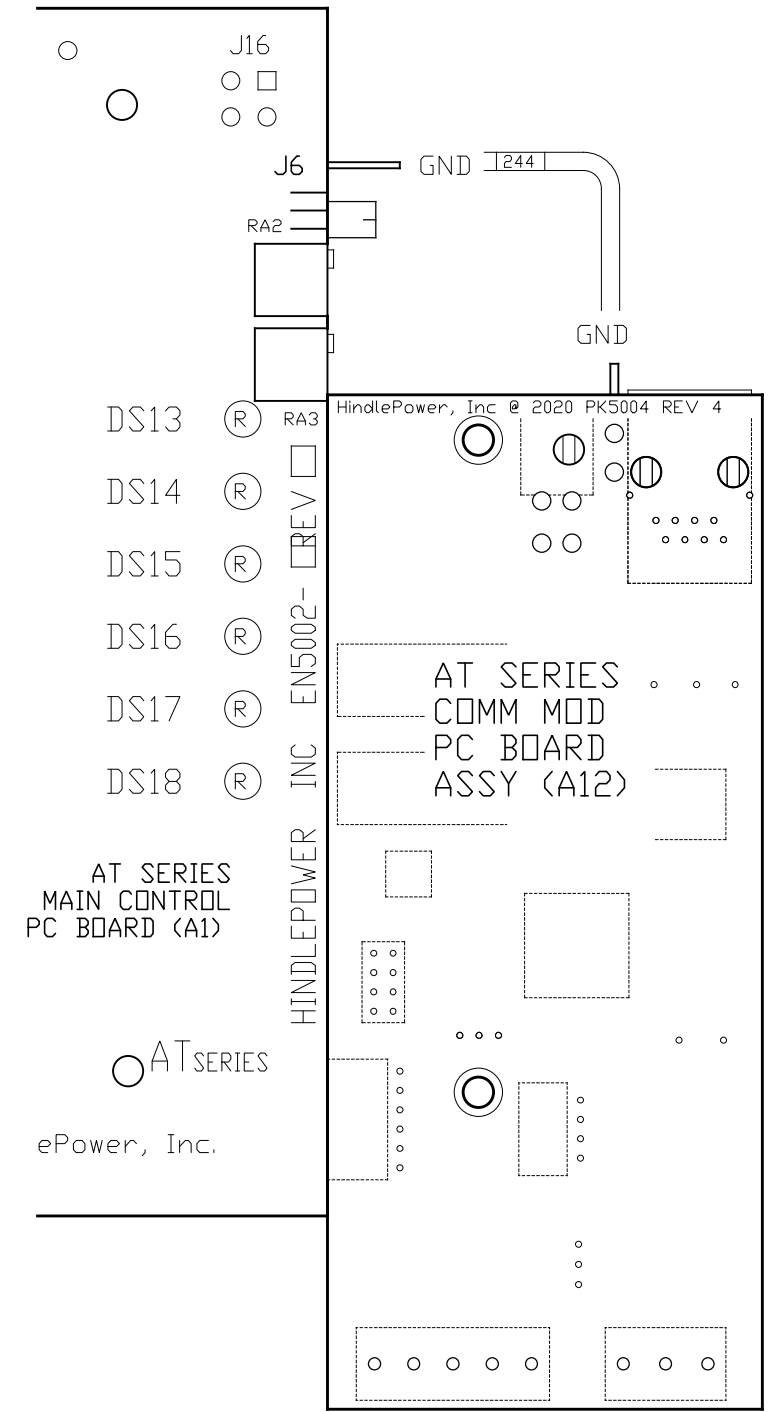
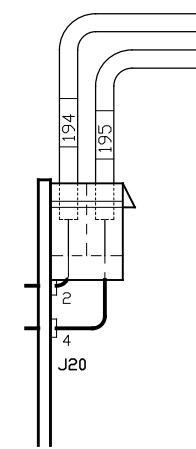
THIRD ANGLE PROJECTION		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
DRAWN BY KMW	110421	TITLE BATTERY CHARGER CONNECTION DIAGRAM: 75-100ADC W/ COMMON OPTIONS	
ELECTRONIC APPROVAL SIGNATURES MAINTAINED BY MFG ECN LG		DRAWING No JE5093-22	REV 0
UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		SCALE NTS	SHEET 2 OF 2

NOTES:

- 1) FOR COMPLETE MANUAL OF AT SERIES COMMUNICATIONS MODULE OPTION, SEE OPERATING INSTRUCTIONS: JA0102-04.pdf
- 2) SEE TABLE BELOW FOR USER CONNECTIONS.



SIDE VIEW OF PC BOARD



- INDICATOR LIGHTS:**
- D1 - STATUS LED, SPI COMM
 - D2 - RXD, SERIAL RECEIVE LED
 - D3 - TXD, SERIAL TRANSMIT LED
 - D4 - ACT, ETHERNET ACTIVITY LED
 - D5 - SPEED, ETHERNET 10/100 LED
 - D6 - LINK, ETHERNET STATUS LED
- JUMPERS / CONNECTORS:**
- J20 - POWER SUPPLY CONNECTION
 - J21 - FACTORY CONNECTION
 - J22 - RS-485 TERMINATING RESISTOR (ENABLE/DISABLE)
 - P13 - PLUG FOR MAIN CONTROL PCB (A1) (J13 CONNECTION)
- SWITCHES:**
- S1 - CONFIGURATION SWITCHES
 - S2 - MODBUS ADDRESS
 - SW10 - RESET BUTTON

I/O TERMINAL	DESCRIPTION - TYPE	CONNECTION
TB10	RS-485 SERIAL TERMINALS - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
TB11	RS-232 SERIAL TERMINALS - SOLDERLESS COMPRESSION SCREW	#22-14 AWG
J1	ETHERNET SERIAL TERMINAL - RJ45 SOCKET	CAT 5,6 UTP
GND	PC BOARD GROUND TERMINAL - SLIP-ON TAB	QC LUG

75-100ADC W/ COMMON OPTIONS

		THIRD ANGLE PROJECTION		HINDLEPOWER		1075 Saint John Street Easton, PA 18042-6661 PH 610-330-9000 FAX 610-330-8510 www.hindlepowerinc.com	
		DRAWN BY		TITLE AT SERIES BATT CHGR COMMUNICATIONS MODULE OPTION DETAIL			
		ELECTRONIC APPROVAL SIGNATURES MAINTAINED BY MFG ECN LOG		DRAWING No JE5107-22		REV 0 B	
0		UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		SCALE NTS		SALES No	
REV	ECN No	DATE			SHEET 1 OF 1		